

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed September 20, 2005. The Applicant traverses the rejections to claims 1-6, 8, 9 and 12. Claim 13 has been added by amendment. Reconsideration and allowance of the subject application and presently pending claims 1-13 is respectfully requested.

I. Response to Claim Rejections based on Anticipation

In the Office Action, claims 1 and 9 are preliminarily rejected under 35 USC§102(b) as being anticipated by German Patent Document No. DE 4140866 to Carnero, *et al* (hereinafter "Carnero"). Claims 1 and 9 are rejected under 35 USC§102(b) as being anticipated by U.S. Patent No. 3,707,681 to Grant (hereinafter "Grant"). For a proper rejection of a claim under 35 USC§102(b), the cited reference must disclose all elements/features/steps of the claim. See, *e.g.*, *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 7 USPQ2d 1129 (Fed. Cir. 1988).

A. Claim 1

Claim 1 is presently written as:

An antenna feed assembly comprising:
a substrate;
a dipole on said substrate;
a reflector on said substrate; and
at least one bandpass filter element on said substrate, ***operationally between*** said dipole and said reflector.
(Emphasis added).

1. Carnero

HAYES SOLOWAY P.C.
130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

In the Office Action, claim 1 is preliminarily rejected under 35 USC§102(b) as being anticipated by Carnero. As disclosed, Carnero is a type of Yagi-Antenna. A Yagi-Antenna uses directors of slightly less than one half wavelength to focus electromagnetic field energy being transmitted in or received from a specific direction. Page 2 of the office action states that elements 114 and 115 of Carnero are dipole antennas, that element 12 of Carnero is a reflector, and that elements C23-C27 and L1 and L3 of Carnero form a bandpass filter.

Carnero fails to teach or disclose all elements of claim 1. Carnero fails to teach or disclose locating the bandpass filter **operationally** between the dipole and the reflector. Wherein the signal progression of the present invention, as claimed, is dipole-bandpass filter-reflector. The bandpass filter filters the signal as it passes between the dipole and the reflector. The Carnero operational signal progression is bandpass filter-dipole-reflector, the bandpass filter does not impact the signal while it is passing between the dipole and the reflector. Carnero fails to teach or disclose locating the bandpass filter **operationally** between the dipole and the reflector.

As Carnero does not teach or disclose a bandpass filter element between a reflector and a dipole, the Applicant respectfully requests the withdrawal of the preliminary anticipation rejection of claim 1.

2. Grant

In the Office Action, claim 1 is preliminarily rejected under 35 USC§102(b) as being anticipated by Grant. Grant teaches an antenna for TV reception. Page 3 of the Office Action states that Grant includes a dipole (88a, 88b, 87a, 87b, 86, and 86b); a reflector (52); and at least one bandpass filter element (17a and 17b; column 5, lines 15-30) between the dipole and the reflector.

Grant fails to teach or disclose all elements of claim 1. Grant fails to teach or disclose locating the bandpass filter **operationally** between the dipole and the reflector. Wherein the signal progression of the present invention, as claimed, is dipole-bandpass filter-reflector. The bandpass filter filters the signal as it passes between the dipole and the reflector. The Grant operational signal progression is bandpass filter-dipole-reflector, the bandpass filter does not impact the signal while it is passing between the dipole and the reflector. Grant fails to teach or disclose locating the bandpass filter **operationally** between the dipole and the reflector.

As Grant does not teach or disclose a bandpass filter element between a reflector and a dipole, the Applicant respectfully requests the withdrawal of the preliminary anticipation rejection of claim 1.

B. Claim 9

Claim 9 is presently written as:

A planar antenna feed assembly comprising:
a substantially planar substrate;
a dipole and a reflector provided on said substrate;
a first bandpass filter element provided on said substrate,
operationally between said dipole and said reflector; and
a second bandpass filter element provided on said substrate,
operationally between said dipole and said reflector.
(Emphasis added).

1. Carnero

In the Office Action, claim 9 is preliminarily rejected under 35 USC§102(b) as being anticipated by Carnero. As disclosed, Carnero is a type of Yagi-Antenna. A Yagi-Antenna uses directors of slightly less than one half wavelength to focus electromagnetic field energy being transmitted in or received from a specific direction.

HAYES SOLOWAY P.C.

130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

Page 2 of the office action states that elements 114 and 115 of Carnero are dipole antennas, that element 12 of Carnero is a reflector, and that elements C23-C27 and L1 and L3 of Carnero form a bandpass filter.

Carnero fails to teach or disclose all elements of claim 9. Carnero fails to teach or disclose locating the bandpass filter **operationally** between the dipole and the reflector. Wherein the signal progression of the present invention, as claimed, is dipole-bandpass filter-reflector. The bandpass filter filters the signal as it passes between the dipole and the reflector. The Carnero operational signal progression is bandpass filter-dipole-reflector, the bandpass filter does not impact the signal while it is passing between the dipole and the reflector. Carnero fails to teach or disclose locating the bandpass filter **operationally** between the dipole and the reflector.

As Carnero does not teach or disclose a bandpass filter element between a reflector and a dipole, the Applicant respectfully requests the withdrawal of the preliminary anticipation rejection of claim 9.

2. Grant

In the Office Action, claim 9 is preliminarily rejected under 35 USC§102(b) as being anticipated by Grant. Grant teaches an antenna for TV reception. Page 3 of the Office Action states that Grant includes a dipole (88a, 88b, 87a, 87b, 86, and 86b); a reflector (52); and at least one bandpass filter element (17a and 17b; column 5, lines 15-30) between the dipole and the reflector.

Grant fails to teach or disclose all elements of claim 9. Grant fails to teach or disclose locating the bandpass filter **operationally** between the dipole and the reflector. Wherein the signal progression of the present invention, as claimed, is dipole-bandpass filter-reflector. The bandpass filter filters the signal as it passes

between the dipole and the reflector. The Grant operational signal progression is bandpass filter-dipole-reflector, the bandpass filter does not impact the signal while it is passing between the dipole and the reflector. Grant fails to teach or disclose locating the bandpass filter **operationally** between the dipole and the reflector.

As Grant does not teach or disclose a bandpass filter element between a reflector and a dipole, the Applicant respectfully requests the withdrawal of the preliminary anticipation rejection of claim 9.

II. Response To Claim Rejections Based On Obviousness

In the Office Action, Claim 1 is preliminarily rejected under 35 USC§103(a) as being unpatentable over US Publication No. 2003/028169 to Desargant, *et al* (hereinafter "Desargant '169") in view of Carnero or Grant. Claim 1 is preliminarily rejected under 35 USC§103(a) as being unpatentable over US Publication No. 2003/0142029 to Desargant, *et al* (hereinafter "Desargant '029") in view of Carnero or Grant. Claims 2-6, 8 and 12 have been preliminarily rejected under 35 USC§103(a) as being unpatentable over Carnero in view of European Patent Application Publication No. EP1098367 to Low (hereinafter "Low"). Claims 2-6, 8 and 12 have been preliminarily rejected under 35 USC§103(a) as being unpatentable over Grant in view of Low. It is well established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/steps of the claim at issue. See, e.g., In re Dow Chemical, 5 U.S.P.Q. 2d 1529, 1531 (Fed. Cir. 1988), and In re Keller, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). We want motivation language.

A. Claim 1

Claim 1 is presently written as:

An antenna feed assembly comprising:
a substrate;
a dipole on said substrate;
a reflector on said substrate; and
at least one bandpass filter element on said substrate, operationally
between said dipole and said reflector.
(Emphasis added).

1. Desargant '169

In the Office Action, claim 1 is preliminarily rejected under 35 USC§103(a) as being obvious based on Desargant '169 in view of either Carnero or Grant.

Desargant '169 teaches a transmitting and receiving satellite dish for mobile platform communications. Page 4 of the Office Action states that it would have been obvious to one having ordinary skill in the art to utilize a dipole in the system of Desargant '169 to achieve a desired operating frequency or a desired radiation pattern.

Desargant '169 in view of either Carnero or Grant fails to motivate or suggest the claimed invention. Specifically, the Office Action states one would have been motivated to combine the references to "achieve a desired operating frequency". However, Grant and Carnero both teach antennas that achieve a desired operating frequency. The bandpass filters in each invention disclosure are used for this purpose. Similarly, the Office Action states one would have been motivated to combine the references to achieve a desired radiation pattern. However, the radiation pattern of Desargant '169 is achieved using an asymmetrical, reflective, rotating "bandpass filter", which is not taught by the present invention. Further, it is unclear that the present invention achieves a different radiation pattern than those achieved by Grant and Carnero. If Carnero and Grant each achieve a desired

operating frequency and a desired radiation pattern that is not unlike the claimed invention, there can be no motivation to combine with Desargant '169 to achieve the present invention.

Alternatively, page 4 of the Office Action may be read to suggest that one skilled in the art would have been motivated to replace the feedhorn of Desargant '169 with a dipole antenna. As feedhorns are typical radiating elements for satellite dishes, it is unclear what teaching of Grant or Carnero would have motivated one skilled in the art to abandon a feedhorn in favor of a dipole. Further, it is unclear what operating frequency or radiation pattern would result. If it is unclear what operating frequency or radiation pattern would result from replacing the Desargant feedhorn with a dipole, how could these references be said to motivate one skilled in the art to replace the Desargant feedhorn with a dipole?

Finally, as amended, the claimed invention includes a dipole, reflector, and bandpass filter mounted to a substrate. There is no motivation to attempt to mount the elements of Desargant '169 to a substrate. Further, the benefits of Desargant '169 require a rotating "bandpass filter", which is not presently practical for a filter mounted to a substrate. Therefore, attempting to modify it to achieve the present invention would frustrate the very purpose of Desargant '169.

As no motivation exists to combine Desargant '169 with Carnero or Grant, the Applicant respectfully requests the withdrawal of the preliminary obviousness rejection of claim 1.

2. Desargant '029

In the Office Action, claim 1 is preliminarily rejected under 35 USC§103(a) as being obvious based on Desargant '029 in view of either Carnero or Grant.

HAYES SOLOWAY P.C.

130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

Desargant '029 teaches a Cassegrain antenna and, more specifically, teaches providing apertures in signal-obstructive objects. Page 4 of the Office Action states that it would have been obvious to one having ordinary skill in the art to utilize a dipole in the system of Desargant '029 to achieve a desired operating frequency or a desired radiation pattern.

Desargant '029 in view of either Carnero or Grant fails to motivate or suggest the claimed invention. Specifically, the Office Action states one would have been motivated to combine the references to "achieve a desired operating frequency". However, Grant and Carnero both teach antennas that achieve a desired operating frequency. The bandpass filters in each invention disclosure are used for this purpose. Similarly, the Office Action states one would have been motivated to combine the references to achieve a desired radiation pattern. However, the radiation pattern of Desargant '029 is achieved using an asymmetrical, reflective, rotating "bandpass filter", which is not taught by the present invention. Further, it is unclear that the present invention achieves a different radiation pattern than those achieved by Grant and Carnero. If Carnero and Grant each achieve a desired operating frequency and a desired radiation pattern that is not unlike the claimed invention, there can be no motivation to combine with Desargant '029 to achieve the present invention.

Alternatively, page 4 of the Office Action may be read to suggest that one skilled in the art would have been motivated to replace the feedhorn of Desargant '029 with a dipole antenna. As feedhorns are typical radiating elements for satellite dishes, it is unclear what teaching of Grant or Carnero would have motivated one skilled in the art to abandon a feedhorn in favor of a dipole. Further, it is unclear what

HAYES SOLOWAY P.C.
130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

operating frequency or radiation pattern would result. Desargant '029 speaks sparingly to using element 20 as a bandpass filter and is silent to radiation pattern. If it is unclear what operating frequency or radiation pattern would result from replacing the Desargant '029 feedhorn with a dipole, how could these references be said to motivate one skilled in the art to replace the Desargant '029 feedhorn with a dipole?

Finally, as amended, the claimed invention includes a dipole, reflector, and bandpass filter mounted to a substrate. There is no motivation to attempt to mount the elements of Desargant '029 to a substrate. Further, the benefits of Desargant '029 make use of apertures in signal obstructions, whereas the bandpass filter of the claimed invention does not have a similar "signal obstruction" scenario.. Therefore, attempting to modify it to achieve the present invention would frustrate the very purpose of Desargant '029.

As no motivation exists to combine Desargant '029 with Carnero or Grant, the Applicant respectfully requests the withdrawal of the preliminary obviousness rejection of claim 1.

B. Claims 2-8

The Applicant respectfully submits that since claims 2-8 depend on independent claim 1, claims 2-8 contain all limitations of independent claim 1. Since independent claim 1 should be allowed, as argued above, pending dependent claims 2-8 should be allowed as a matter of law for at least this reason. In re Fine, 5 U.S.P.Q. 2d 1596, 1608 (Fed. Cir. 1988).

1. Carnero in view of Low

HAYES SOLOWAY P.C.
130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

Claims 2-6 and 8 have been preliminarily rejected based on Carnero in view of Low. As explained above, Claim 1 is allowable over Carnero because Carnero does not teach or disclose a bandpass filter element between a reflector and a dipole. Low does not teach or disclose a bandpass filter element between a reflector and a dipole and the Office Action does not suggest that Low teaches or discloses a bandpass filter element between a reflector and a dipole.

As Carnero in view of Low does not teach or disclose a bandpass filter element between a reflector and a dipole, the Applicant respectfully requests the withdrawal of the preliminary anticipation rejection of claims 2-6 and 8.

2. Grant in view of Low

Claims 2-6 and 8 have been preliminarily rejected based on Grant in view of Low. As explained above, Claim 1 is allowable over Grant because Grant does not teach or disclose a bandpass filter element between a reflector and a dipole. Low does not teach or disclose a bandpass filter element between a reflector and a dipole and the Office Action does not suggest that Low teaches or discloses a bandpass filter element between a reflector and a dipole.

As Grant in view of Low does not teach or disclose a bandpass filter element between a reflector and a dipole, the Applicant respectfully requests the withdrawal of the preliminary anticipation rejection of claims 2-6 and 8.

C. Claims 10-12

The Applicant respectfully submits that since claims 10-12 depend on independent claim 9, claims 10-12 contains all limitations of independent claim 9. Since independent claim 9 should be allowed, as argued above, pending dependent

HAYES SOLOWAY P.C.

130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

claims 10-12 should be allowed as a matter of law for at least this reason. In re Fine, 5 U.S.P.Q. 2d 1596, 1608 (Fed. Cir. 1988).

1. Carnero in view of Low

Claim 12 has been preliminarily rejected based on Carnero in view of Low. As explained above, claim 9 is allowable over Carnero because Carnero does not teach or disclose a bandpass filter element between a reflector and a dipole. Low does not teach or disclose a bandpass filter element between a reflector and a dipole and the Office Action does not suggest that Low teaches or discloses a bandpass filter element between a reflector and a dipole.

As Carnero in view of Low does not teach or disclose a bandpass filter element between a reflector and a dipole, the Applicant respectfully requests the withdrawal of the preliminary anticipation rejection of claim 12.

2. Grant in view of Low

Claim 12 has been preliminarily rejected based on Grant in view of Low. As explained above, claim 9 is allowable over Grant because Grant does not teach or disclose a bandpass filter element between a reflector and a dipole. Low does not teach or disclose a bandpass filter element between a reflector and a dipole and the Office Action does not suggest that Low teaches or discloses a bandpass filter element between a reflector and a dipole.

As Grant in view of Low does not teach or disclose a bandpass filter element between a reflector and a dipole, the Applicant respectfully requests the withdrawal of the preliminary anticipation rejection of claim 12.

HAYES SOLOWAY P.C.
130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

D. Claim 13

The Office Action states that claim 7 contains allowable subject matter and would be allowable if it did not depend on a rejected claim. For the reasons stated herein, claim 7 depends upon an allowable claim. Further, claim 13 has been added. Claim 13 contains all of the limitations of claim 7 as originally presented.

HAYES SOLOWAY P.C.

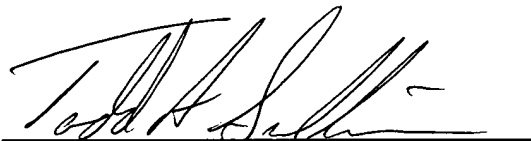
130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

—
175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

Conclusion

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and rejections have been traversed, rendered moot and/or accommodated, and that presently pending claims 1-13 are in condition for allowance. Favorable reconsideration and allowance of the present application and the presently pending claims are hereby courteously requested. If in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (603) 668-1400.

Respectfully submitted,



Todd A. Sullivan
Attorney for Applicant
Reg. No. 47,117

Customer No. 26,812

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 20, 2005 at Manchester, New Hampshire.

By: 

HAYES SOLOWAY P.C.
130 W. CUSHING ST.
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567